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ABSTRACT OF THE DISCLOSURE

The present invention relates to a method for optical fiber transmission which can increase a transmission distance. A first optical fiber having dispersion is first provided. An optical signal is next supplied to the first optical fiber so that the optical signal is compressed on the time axis as propagating in the first optical fiber. In the case that the dispersion is normal dispersion, for example, prechirping is performed so that the optical signal has down-chirp. A compressed optical signal output from the first optical fiber is supplied to an optical device having a saturated gain. According to this method, the transmission distance can be increased by the effective combination of compression of the optical signal and waveform shaping by the optical device.